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IN THE

Supreme Court of the United States,

OCTOBER TERM, 1934.

No. 102.

SAMUEL B. SMITH,

Petitioner,

v.

E. H. SNOW AND E. H. SNOW DOING BUSINESS AS SNOW'S HATCHERIES AND SNOW'S INCUBATOR COMPANY,

Respondents.

BRIEF ON BEHALF OF PETITIONER.

CHARLES NEAVE,
ALBERT L. ELY,
AMASA C. PAUL,
MAURICE M. MOORE,
Of Counsel for Petitioner.

November, 1934.

The Rumford Printing Company, Inc., 346 Pearl St., New York, N. Y.

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BRIEF ON BEHALF OF PETITIONER.

The Opinions Below.

The present case comes before this Court on a Writ of Certiorari to the Circuit Court of Appeals for the Eighth Circuit (issued pursuant to U. S. C. A. Title 28, Section 347) to review the decision of that Court (70 F. (2d) 564 and Vol. II, p. 984) as to the scope of claim 1 of the patent to S. B. Smith, No. 1,262,860, dated April 16, 1918. The Court held that claim to be valid but *not infringed.*

In *Waxham* v. *Smith,* 70 F. (2d) 457, the Circuit Court of Appeals for the Ninth Circuit held the same claim of the patent here in suit to be valid and *infringed.* That case is now pending in this Court (No. 208).

This Smith patent has been the subject of extended litigation ever since its issuance, and many of the cases

have reached the several Courts of Appeals. In all of the cases, claim 1, here in issue, has been held to be valid. The following is a complete list of all the opinions, reported and unreported (except the two cases referred to above):

Buckeye Incubator Co. v. *Wolf,* D. C. N. D. Ohio W. D. (Westenhaver, *D.J.*) 291 F. 253;

Wolf v. *Buckeye Incubator Co.,* C. C. A. 6 (*J.J.* Denison, Mack and Donahue) 296 F. 680;

Buckeye Incubator Co. v. *Cooley,* D. C. N. J. Bodine, *D.J.*) Unreported;

Buckeye Incubator Co. v. *Cooley,* C. C. A. 3 (*J.J.* Buffington, Woolley and Dickinson) 17 F. (2) 453;

Buckeye Incubator Co. et al v. *Stone,* D. C. Oregon (Maguire, Master) Unreported;

Buckeye Incubator Co. et al. v. *Petersime,* D. C. S. D. Ohio W. D. (Hickenlooper, *D.J.*) Unreported;

Buckeye Incubator Co. et al v. *Blum,* D. C. N. D. Ohio E. D. (Westenhaver, *D.J.*) 17 F. (2) 456;

Buckeye Incubator Co. et al. v. Petersime, C. C. A. 6 (*J.J.* Denison, Moorman and Knappen) 19 F. (2) 721;

Buckeye Incubator Co. et al. v. *Hillpot,* D. C. N. J. (Bodine, *D.J.*) 22 F. (2) 855;

Buckeye Incubator Co. et al. v. *Hillpot,* C. C. A. 3 (*J.J.* Buffington, Woolley and Davis) 24 F. (2) 341;

Buckeye Incubator Co. et al. v. *Blum,* C. C. A. 6 (*J.J.* Denison, Moorman and Anderson) 27 F. (2) 333;

Buckeye Incubator Co. et al v. *F. & H. Hatchery,* D. C. S. D. Ill. (Fitzhenry, *D.J.*) Unreported;

Buckeye Incubator Co. et al. v. *Miller Hatcheries, et al.,* D. C. E. D. Mo. (Davis, *D.J.*) Unreported;

Boling v. *Buckeye Incubator Co. et al.*, D. C. S. D. Ohio, W. D. (Hough, *D.J.*) 33 F. (2) 347;
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Buckeye Incubator Co. v. *Boling*, C. C. A. 6 (*J.J.* Denison, Moorman and Hickenlooper) 46 F. (2) 965;
Smith et al. v. *Jensma et al.*, D. C. Idaho (Cavanah, *D.J.*) 1 Fed. Supp. 999.

Statement of the Case.

The sole question as to which there has been a conflict of decision in the lower courts is the proper scope of claim 1—that is, the conflict of decision has been as to infringement only. In all the Circuit Courts of Appeals which have discussed the Smith patent, the validity of the patent has been sustained. The defendant, respondent here, made no application for certiorari. We understand that, under these circumstances, this Court will consider the matter of infringement only. See

Webster v. *Splitdorf Company*, 264 U. S. 463, 464;
Federal Trade Commission v. *Pacific Paper Association*, 273 U. S. 52, 66;
Steele v. *Drummond*, 275 U. S. 199, 203;
Warner v. *Pier Company*, 278 U. S. 85, 91;
Sanitary Refrigerator Company v. *Winters*, 280 U. S. 30, 34;
Gunning v. *Cooley*, 281 U. S. 90, 98;
Page v. *Arkansas Gas Corporation*, 286 U. S. 270, 271.

The patent in suit:

The Smith patent in suit (Vol. II, p. 429) brings together for the first time in the art of incubation two major

steps which are the essential factors of successful mass incubation of eggs. *One of these steps* is the placing of eggs in an incubator at spaced intervals of time (instead of filling the incubator all at one time) so that, after being filled, the incubator contains, at all times, eggs ranging all the way from fresh eggs, to eggs which are approaching the completion of the incubation or hatching period. As hatched eggs are removed, they are replaced by fresh eggs. *The other major step* is the application of a forced draft of air to the eggs.

The period of hatching is twenty-one days and where the Smith process is being carried on, the chamber contains thousands of eggs of many ages or stages of advancement in the process of hatching. The reason for this, which is known as "staged incubation," is that, during the earlier portion of the hatching period, the eggs are cold and require the application of heat to generate and maintain life of the embryo therein, or, stated in another way, the eggs are "endothermic" or heat absorbing. After the eggs have reached the eleventh day and on through the balance of the hatching period, the embryos within the eggs have advanced to such an extent that they generate more heat than is required to keep the embryos alive, and an excess of heat flows therefrom, or the eggs become "exothermic" or heat generating (Vol. I, p. 61).

Were all of the eggs which it is possible to incubate in a single incubator by the Smith process, set at one time, it would be necessary to supply an excess of heat during the first half of the incubating period and then as the eggs approached the end of the hatching period, so much heat would be developed that it would be impossible to keep them from overheating and the chicks within the eggs would be killed by their self-generated heat (Vol. I, p. 138). By setting the eggs at short intervals the Smith patent (as was expressed by the Circuit Court of Appeals for the Ninth Circuit in *Waxham* v. *Smith,* 70 F. (2d) 457) "utilizes the heat gen-

erated by the eggs in the last stages of incubation to heat the eggs in the earlier stages, and conversely, the lower temperature of the latter eggs to reduce the temperature of the eggs in the later stages."

The heat requirements of the fresher eggs and the amount of heat given off by the older eggs are fixed by nature. As the egg content of the incubator is divided between these two classes of eggs, the one class balances the other, each acts as a complement of the other, and stabilization of heat is made possible by the current of air passing throughout the entire chamber. The process of incubation, therefore, progresses with a minimum of temperature control by the operator (Vol. I, p. 69).

The facts of heat requirement and heat development of eggs in the process of incubation have been known for centuries, but until the invention of the Smith process, that law of nature had never been utilized in a practical way. He was the first man who ever put the law of nature to work.

In order to accomplish the interchange of heat between the hot and cold eggs, Smith subjected the eggs placed in the incubator in a series of trays, one above another, to a current of air of sufficient velocity to effect the heat transfer, or, as expressed in claim 1 of the patent, so that "the units of heat will be carried from the eggs in the more advanced stage to those in a less advanced stage." In so doing Smith violated all previous notions and canons respecting incubation, for it had always been considered injurious to subject incubating eggs to a draft of air, and every precaution was taken to shield them from drafts (Vol. I, p. 62).

As to the nature of Smith's invention, the admission of respondent's witness (Vol. I, p. 301) is interesting:

> "Do you find any patent in the prior art that shows a general setting of eggs in stage-incubation, and the general application of forced air over those eggs—is there any patent or publication in the prior art, that shows that?"
>
> "No, no I don't think so."

Two of the essential steps of the Smith process therefore appear. They are

(1) Setting eggs in a single chamber or cabinet at successive times so that they will be in superposed layers of various ages of incubation. *This is staged-incubation.*

and

(2) The application of a current of air, propelled by means other than convection currents or natural drafts, over eggs in staged-incubation. *This is forced-draft.*

The point of the *forced* draft or current of air is that the air shall continuously be moving throughout all parts of the incubator so that all of the eggs shall be subjected to it, as distinguished from what would occur in the case of natural drafts or in the case of any mere agitation of the air, as, in these latter cases, there would be local stagnant places where the hot eggs would overheat and the cool eggs would remain too cold.

It is only by the combination of these two essential elements of staged-incubation and forced draft that the invention is accomplished. Staged-incubation alone will not do, for the requisite heat transfer can not be accomplished merely by relying upon convection currents, or localized air agitation, or radiation in a still air environment. A forced-draft alone will not do it. Only when staged-incubation and forced-draft meet and are combined is the invention secured.

It is a further essential that the process must be carried out in a substantially closed cabinet in which the air passes over and over the eggs in repeated circuits or closed cycles.

It is necessary to admit some fresh air to supply the embryos with the requisite oxygen which they breathe through the pores in the shells. On the other hand, the water content of the egg must be dried out *slowly*. If

dried out too rapidly the embryo would be killed. If, therefore, the relatively dry air from the outside passed through the chamber in large quantities, the eggs would dry out too rapidly for successful hatching (Vol. I, p. 71). So the claim provides, and the process is carried on in a room closed except for restricted openings to supply fresh air and to permit the escape of foul air without undue loss of moisture. This is described in the patent on page 2, lines 43 to 45 (Vol. II, p. 430):

> "The outlets 28 for the release of foul air are made of such restricted capacity as to prevent the undue escape of moisture."

This means that the air is passing in repeated cycles over and over again through the same mass of eggs. The moisture is conserved by this repeated cycle or circuit movement of the same body of air. The passage of the air in repeated cycles is described at page 2, lines 18-21 of the patent as follows (Vol. II, p. 430):

> "The longitudinal space 21 above the fans has open communication above the side walls 22 with the upper ends of the rack compartments behind the curtains * * *."

The air must pass in these repeated cycles over the eggs for there is only one small outlet opening shown on each side of the incubator (Fig. 1, Vol. II, p. 428).

This is the element of claim 1 of the patent, which calls for

> "a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture."

At this point the Court is warned against the optical delusion of Fig. 1 of the patent. The section of Fig. 1 is taken at the foul air outlet. There is only *one* foul air opening 28 in each side of the incubator as is shown by

Fig. 3. The amount of foul air which leaves the machine through such outlet is necessarily the same in quantity as the amount taken in, for obviously the pressure inside will remain the same as the pressure outside the machine. There is one fresh air opening over each fan and each of these openings is throttled by the adjustable slides 24 just below it. (Fig. 1.) As the patent says, page 2, lines 46-47:

> "It is possible to limit the openings and so conserve the moisture."

In the operation of the Smith commercial machines, this interchange of foul and fresh air is only *one-half of one per cent* of the total volume of air in circulation (Vol. I, p. 68).

It will also be observed that, if the air is moving in a closed cycle through the incubator, the position of the fan in that cycle is wholly immaterial. The fan is merely the instrumentality which maintains the cycle in motion, and the same body of air (except for the 1/200 part of fresh air) moves over and over through fan and eggs.

To illustrate our point assume for a moment that the Smith incubator cabinet were closed entirely so that no fresh air entered or foul air escaped. Then it would be apparent that the air moved in closed cycles, and, as hot and cold eggs were in that cycle, necessarily the heat interchange must take place. This result is not disturbed by opening of vents for a 1/200th portion of the air to escape to be replaced by an equivalent amount of fresh air in each cycle.

In the patent Smith described, as a specific method, the setting of the eggs at the top of columns and moving these eggs downwardly as incubation progressed so that, as the hatching day arrived, the chicks would hatch at the bottom and the litter be confined to the floor of the incubator (Vol. I, p. 67).

The history of the invention:

Dr. Smith, the patentee, prior to the invention was a country doctor living in Attica, Ohio. He became interested in the problems of incubation several years prior to the date of his completion of the invention (Vol. I, p. 134-139), and sought for a successful solution of the problem of mass incubation. He early tried the use of fans with incubators in an attempt to combat the excessive heat generated by the large masses of eggs with which he was experimenting. After considerable experimentation and failures he moved to Cleveland, Ohio, in the year 1913, and there built and operated, with indifferent success, a composite incubator composed of three *separate and distinct* chambers in which were located fans, but in each of which the eggs were set all at one time (Vol. I, p. 138). He found, however, even with increased circulation, that he was unable to prevent the compartments from getting so hot toward the end of the incubating period that "chicks would die in the shells from overheating" (Vol. I, p. 138). From this discouraging experience first came the conception of setting the eggs in the incubator cabinet at intervals, or in "staged incubation", and this conception he first put into use in the hatching season of 1915 (Vol. I, p. 136). When he first put into practise the conception of *combining staged incubation with the forced draft* he attained success *but this combination did not take place until the year 1915.* With this combination of the two essential elements of his invention success was assured.

The important thing that appears from the history of Dr. Smith's invention and the thing which should always be borne in mind is, that it was not until Dr. Smith added to and combined with his previous idea of forced draft, the important step of setting the eggs in staged incubation, that the invention was achieved.

At the same time that Dr. Smith added the step of staged incubation to his process he also added the cur-

tains 3 and 4 at the sides of the central corridor (Vol. I, p. 136) better to direct through the cabinet the *air currents* propelled by the small fans which he then employed. But *it was not the addition of curtains which turned Smith's prior failures to success, it was the addition of staged incubation which was the final step.* Had Dr. Smith only added the curtains to his previous efforts he would not have succeeded, for that addition would not have eliminated the disastrous overheating which is found when thousands of eggs all reach the hatching point at the same time. It was the addition of staged incubation or, stated in another way, the filling of the incubator in various stages of embryo development, which turned the table. *The intelligent use of the differing thermal properties of old eggs and fresh eggs by means of a forced draft of air solved the problem of egg incubation on a larger scale.* The curtains were merely a refinement of the apparatus, useful only when small fans are used.

Dr. Smith's testimony that he did not have the essential step of staged incubation in 1913 and 1914, must be accepted, for his testimony is undisputed. He is also corroborated by the newspaper articles concerning his incubator published in 1913 and 1914 introduced by the defendants (Vol. II, pp. 530-532). The article in the Cleveland Plain Dealer of February 23, 1913, is particularly clear that at that time he did not set his eggs in staged incubation, but set *each of the several separate compartments* at one time (Vol. I, p. 138).

The same is true of the article in the Cleveland Leader of Feb. 22, 1914 (Vol. II, p. 531), in which there is no disclosure of staged incubation.

The District Court in the present case made the following fact finding:

> "13. The Smith prior use and the publications thereof do not anticipate, as they do not disclose staged incubation" (Vol. I, p. 22).

This fact finding was not questioned by the Court of Appeals.

Staged incubation plus the forced draft, or current of air, made the new system; success immediately followed. Even before the patent issued Dr. Smith had licensed The Buckeye Incubator Company, an old and established incubator manufacturing concern, to make and sell incubators under his pending application. The license to that Company was confined to the smaller incubator units, Dr. Smith retaining for himself the right to use incubators of over 25,000 egg capacity (Vol. I, p. 79).

It is now possible successfully to operate a single incubator cabinet having a capacity of 52,000 eggs, a result undreamed of before the Smith invention. It had never been possible with the older methods to operate incubators averaging over 300 egg capacity (Vol. I, p. 61). The advantages in economy and efficiency are obvious.

For a period Dr. Smith operated his own hatchery using the larger incubator units, and developed the largest incubator establishment then in existence, with a total capacity of a million eggs (Vol. I, p. 56). Starting in the year 1922 Dr. Smith made and sold the larger units through The Smith Incubator Company. Up to and including the year 1932, the licensee, Buckeye, had sold well over $11,000,000 worth of incubators with a total egg capacity of over 98,000,000 eggs and Smith had sold over $12,000,000 worth of incubators with a total egg capacity of over 90,000,000 eggs. The combined sales of both concerns amounted to approximately $24,000,000 worth of incubators and over 188,000,000 egg capacity (Vol. II, p. 517).

To this enormous total must be added the value and egg capacities of the thousands of incubators which have been sold and used by the infringers who have taken the Smith invention and appropriated it to their own use and profit. The constant procession of infringers before the

Courts, utilizing the basic ideas of staged-incubation and forced-draft, further attests the value of the invention.

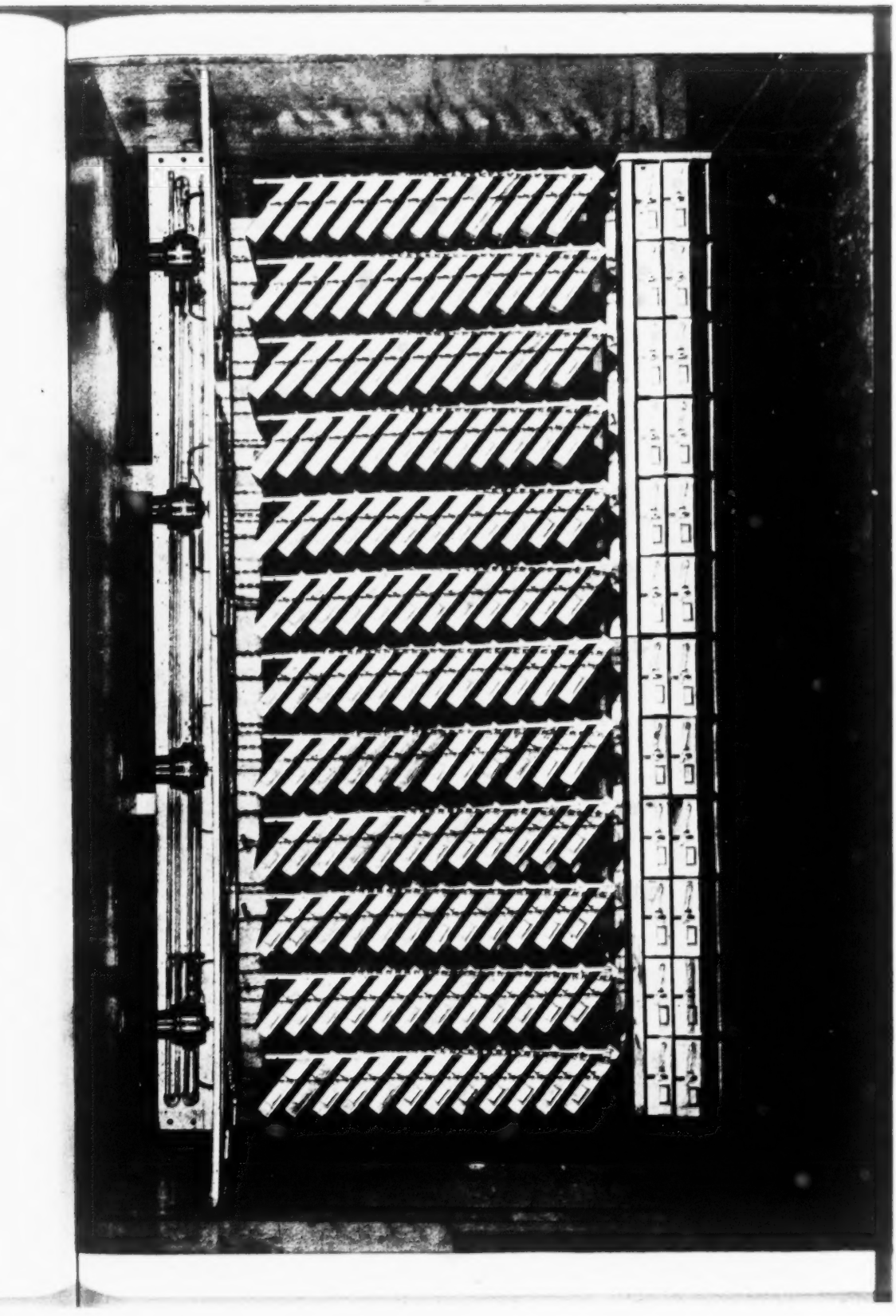
The Smith invention has made obsolete the old, single-layer, desk-like incubators which incubated the eggs in a still air environment in one layer and in a single batch or one stage of incubation. This type of incubator is no longer a factor in the industry. A new and very substantial industry has been built up under the Smith invention. Large hatchery establishments using the Smith process flourish over the country giving profitable employment to many.

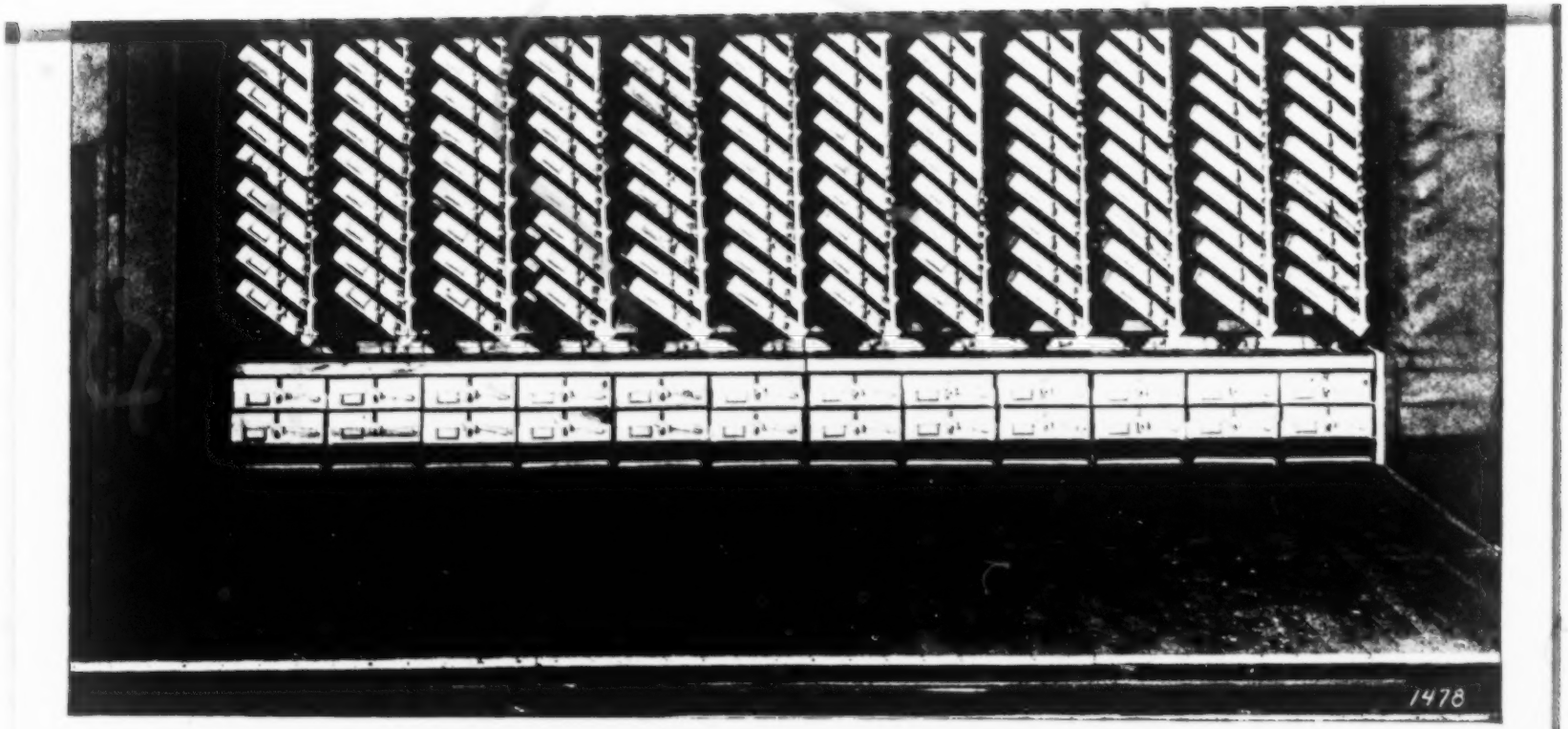
The claim in issue of the patent in suit is as follows:

> "1. The method of hatching a plurality of eggs by arranging them at different levels in a *closed chamber* having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying *a current of heated air,* said current being created by means other than variations of temperature and *of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber* at substantially the same temperature, *whereby* the air will be vitalized, the moisture conserved and *the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage* for the purpose specified."

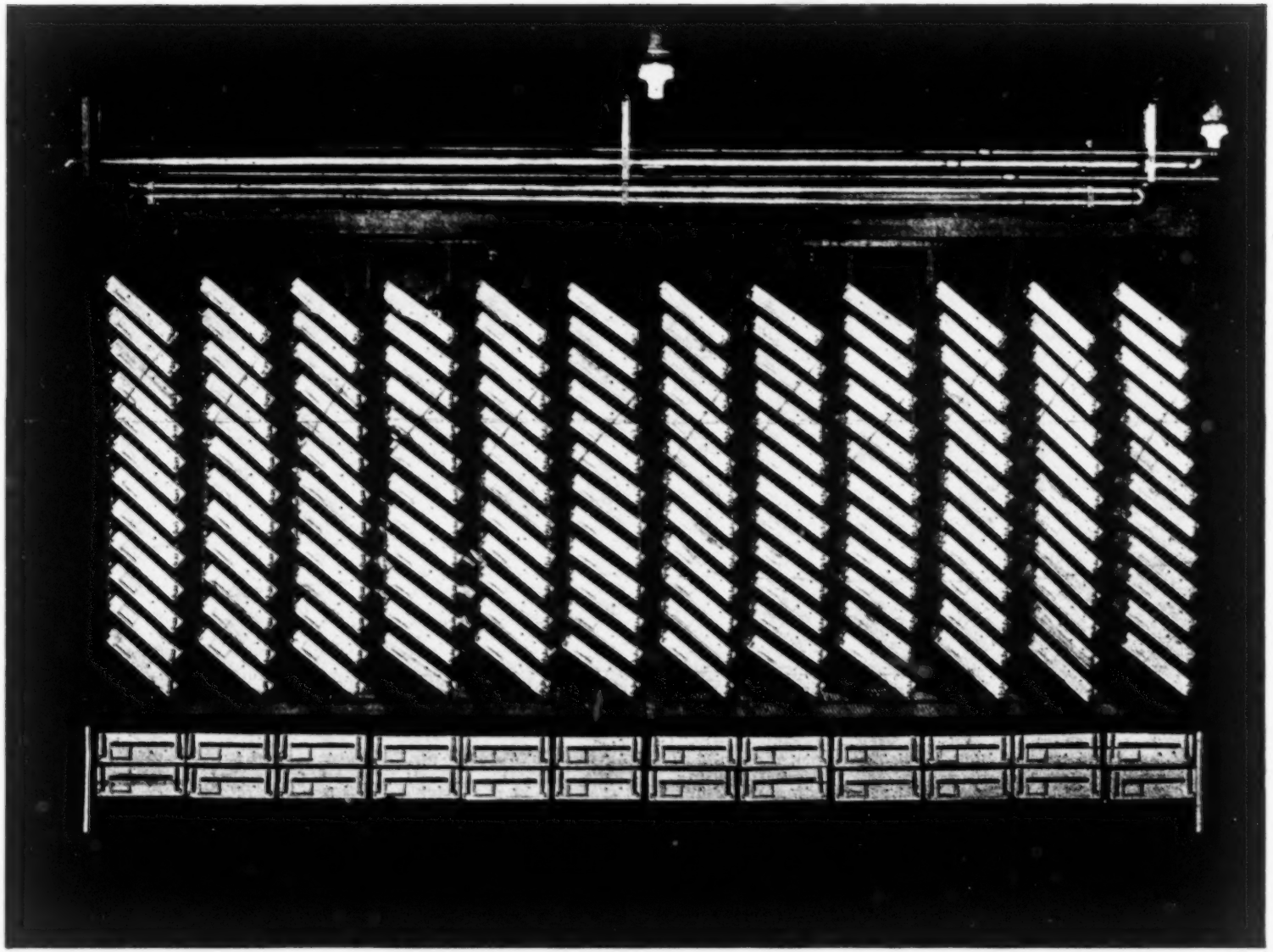
The Respondent's method:

The respondent's incubator is a large cabinet or chamber the outside of which is shown at Vol. II, page 459, and the inside is shown at page 463. As there illustrated, there is a central corridor between two of a series of twelve columns of trays, each column holding twelve tilting trays and two stationary hatching trays, each tray containing about 140 eggs. The whole cabinet then contains 45,000 eggs. Comparative views of the egg tray racks in the Smith and respondent's incubators (Vol. II, pp. 447, 465) are here reproduced facing page 12, the



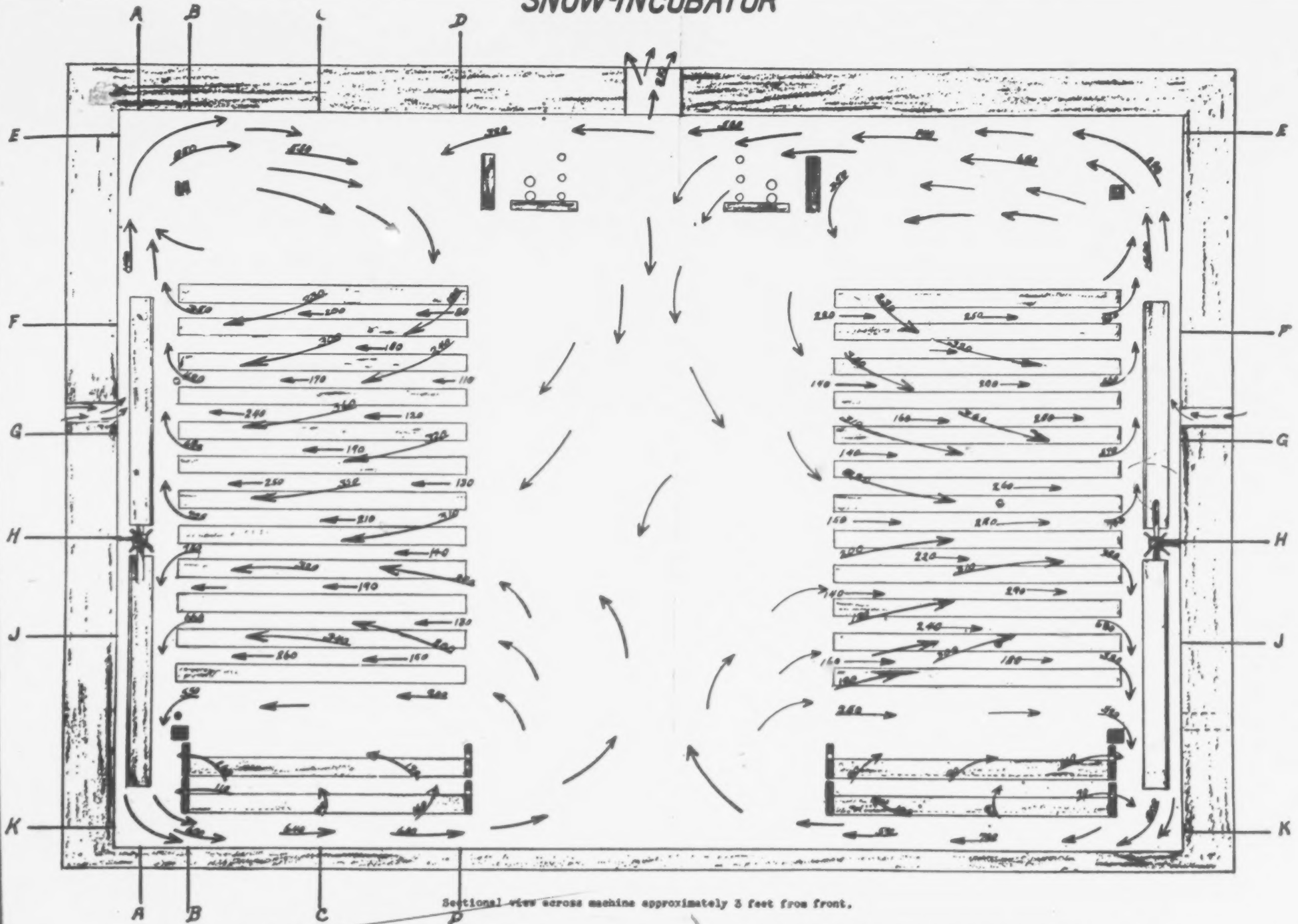


Plaintiff's Exhibit 6-C. Smith Incubator. Side elevation of egg trays.



Plaintiff's Exhibit 10-C. Snow Incubator. Side elevation of egg trays.

SNOW-INCUBATOR



Sectional view across machine approximately 3 feet from front.

Arrows show general direction of air currents. Numbers give approximate speed of currents as recorded by anemometer.

Readings in lower two trays were taken with the anemometers in the trays.

Fans were rotating counter clockwise 208-210 R.P.M.

Short arrows between upper twelve trays show direction and approximate speed of air currents near center of trays. In these readings, the anemometer was placed in the trays in normal operating position.

Long arrows sweeping across sides of upper twelve trays show currents between tray columns.

incubating trays being shown in inclined position, with horizontal hatching trays below.

In starting the incubator in use (Vol. I, pp. 142-143) respondent sets one-seventh of the total incubator capacity at one time, by placing a tray of eggs at the top of each of the twenty-four columns and also one three spaces down, as indicated by "1st" on page 533 of Volume II. Then, three days later, namely on the fourth day, trays of eggs marked "4th" are inserted; then two more trays on the "7th" day, etc. When the tilting trays have been filled it will be observed that there are some fresh eggs in the incubator (those last put in) and some have been in for sixteen days and are almost ready to be hatched. In two days more the latter trays are moved to the hatching trays, shown at the bottom of the incubator, and trays of fresh eggs are inserted in their place.

So it is apparent that the respondent practices "staged incubation"; that is, the eggs in the various trays are in various stages of incubation.

At Vol. II, page 473 is another view (here reproduced facing page 13) of the interior of the respondent's incubator, showing the large fans H, one at the right and the other at the left. The arrows show the course of the currents of air produced by those fans.

As shown by tests and test diagrams in the Record, the movement of air in the Snow machine is in an orderly regular fashion of current form, consistent and unchangeable.

The testimony of Mr. Taggart, plaintiff's expert (Vol. I, pp. 102-104) was based on extensive and exhaustive anemometer tests which covered weeks of study. By the use of these devices, it is possible to locate and plot the currents, their direction and speed. The findings were reduced to chart form in Exhibits 12 and 13 (Vol. II, pp. 473-511), the first sheet of Exhibit 12 being the one reduced and bound herein. In the several drawings constituting Exhibit 13 (Vol. II, p. 495) the current leaving

the fans is colored blue, and the portion of the same current as it comes back to the fans is colored red. The uncolored areas represent the regions in which the air is turning back toward the fans. It will be observed that the major portion of the egg trays is located in the red area, that is, where the air is moving as a mass toward the fans in current form.

The respondent's machine uses two fans of large diameter on either side wall and these fans are constantly rotated at 200 revolutions per minute, or more (Vol. I, p. 100). These fans draw the air from the egg trays located in front of the fans and discharge it centrifugally up and down and sidewise along the wall back of the fans where the current meets the end walls, floor and ceiling and moves toward the center of the incubator at speeds well above the average speed of the air movement in the Smith machine. The great majority of the air reaches the central corridor where it turns back and passes in a steady current between the egg trays in its return path to the fans (Vol. I, p. 105). The speed of the air as it passes through the egg trays varies from 150 to 300 and 400 feet per minute, a much higher speed than that at which the air moves through the egg trays in the Smith machine. Where the inward and outward currents are adjacent, there is a region where, as might be expected, portions of the air in motion forward turn back and join the main body of inward moving air. At isolated points on the floor or on the ceiling the air current from one side of the machine crosses the corridor and enters the other side of the machine. At the region where two fans on one side of the machine meet, a current of air is projected forwardly through the egg trays and then turns back to join the main inwardly moving current. All of the air movements which vary from the main body of the air in motion are easily understood and explainable, and they are constant. They in no way detract from the general statement that *the body of air in the machine is*

moving in current form through the egg trays. In the corridor there is some confusion of currents, but this is immaterial for

> "through the egg trays themselves, around the egg trays and through the air spaces between the egg trays there are definite, definable currents" (Vol. I, pp. 104-105).

The conditions within the corridor are analogous to the conditions above the fans in the patent in suit where the currents of air from the opposite sides of the machine meet and mingle to be recirculated by the fans.

Within the region of the egg trays, the air in Smith moves up the spaces between the racks in a vertical direction. Within the region of the egg trays in respondent's machine, the air moves through the spaces between the racks in a horizontal direction. The claim in suit does not specify the *direction* of the current; it purposely omits reference to the direction of current flow, a limitation as to *vertical* movement being found in claim 3 not in suit. Claim 2, not at issue here, contains a limitation as to the generation of the current of air *in an adjacent chamber,* which is not in claim 1.

So respondent has not only staged incubation but, also, a definite current of air which will, necessarily, pick up heat from the eggs in advanced stages of incubation and deliver it to the fresher eggs.

And in the respondent's machine the air is definitely recirculated, that is, the current of air passes over and over again through its course in the chamber. There are small adjustable air inlets located in the back wall of the cabinet through which fresh air enters and is picked up by the fans and mixed with the main body of air in circulation. The foul air outlets are on the ceiling of the cabinet directly over the corridor. In the operation of the respondent's machine the amount of air which enters the circuit is the same as that which enters the

air circuit in the Smith machine, namely, one-half of 1% of the whole volume of air (Vol. I, pp. 68, 93). Therefore, in the respondent's machine, 99½% of the whole volume of air is moving in continuous cycles throughout the cabinet and in contact with all the eggs in the cabinet.

The Errors Assigned and to be Argued.

The errors assigned in the petition for writ of certiorari and to be argued here are:

1. The Circuit Court of Appeals for the Eighth Circuit *erred in restricting* claim 1 of the patent in suit to the precise arrangement of eggs described in the specification of the patent.*

2. The Court erred in holding that that claim is not infringed.

Summary of Argument.

Smith, the patentee of the patent in suit, has accomplished something of real merit as has been recognized by the concurring views of four Circuit Courts of Appeals holding that claim 1 here in issue is valid.

A very large business has been built up on the basis of his invention the essentials of which were to have the eggs in the incubator in a condition of "staged incubation" and to utilize the heat given off by the eggs in advanced stages of incubation by transferring that heat to the cooler eggs in the less advanced stages of in-

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* *In this holding the Circuit Court of Appeals of the Eighth Circuit stands alone.* The Circuit Courts of Appeals of the Third, Sixth and Ninth Circuits have all concurred in the opposite view, *i. e.*, that the order and arrangement of eggs and the direction of the air current with respect thereto is not essential to the Smith invention, nor is it an element of the claim in issue here.

cubation by means of a forced draft or current of air throughout the incubator which is substantially closed, the forced current of air thus moving over the eggs throughout the incubator again and again and efficiently taking up heat from the hot eggs and delivering it to the colder eggs.

As substantially the same air repeatedly moves over all the eggs again and again, it is entirely immaterial in what order the eggs in different stages of incubation may be in the incubator. The currents of air persisting throughout the chamber transfer the heat from the older eggs to the fresher eggs no matter what the arrangement of the eggs may be. The result is precisely the same irrespective of the arrangement. Smith, the patentee of the patent in suit, preferred a certain arrangement of eggs as described in his specification, but the claim in issue is not limited to any particular arrangement and there is no reason why Smith's preferred arrangement should be read into the claim and every reason why the claim should be construed to give to the inventor the full benefit of the real contribution to the art that he has made.

Neither what was known or practiced before his time nor the history of his application while it was pending in the Patent Office require that the claim shall be given any meaning other than that which it has as it reads. Indeed, a consideration of what was known prior to Smith's time merely emphasizes what his real invention is as expressed in the claim, namely, a forced draft or circulation of air applied to eggs in staged incubation in a closed chamber.

That was his invention. That is the thing that has brought success. That is the thing that the defendant uses.

ARGUMENT.

POINT I.

The essentials of the Smith invention and what was accomplished.

That Smith has accomplished *something* of real merit is apparent from the concurring views of the Circuit Courts of Appeals of the Third, Sixth, Eighth and Ninth Circuits in the various decisions cited at the outset of this brief.

The Circuit Court of Appeals first to sustain Claim 1 in issue was the Sixth, in the *Wolf* case (296 Fed. 680). Then the Court of Appeals for the Third Circuit, in the *Cooley* case (17 F. (2d) 453) on a completely independent investigation, reached the same conclusion, as that Court did, also, in the *Hillpot* case (24 F. (2d) 341). Then, in the Eighth Circuit, the Circuit Court of Appeals, in the *Miller* case (41 F. (2d) 619) reached the same conclusion after having "independently examined the question of validity". And the Ninth Circuit Court of Appeals, in the *Waxham* case (70 F. (2d) 457) passed on the merits again, and sustained the claim.

So, starting with the established and repeatedly adjudicated merit of what Smith accomplished, let us see just what that thing was.

The new thought underlying the invention was to take advantage of and make use of the heat given off by the eggs in the advanced stages of incubation. To do this required that there should be present, in the incubator, some fresher and cooler eggs to which this heat could be transferred. Thus, for the first time, some benefit was derived from "staged incubation", namely, the having, in the incubator, eggs in various stages of incubation, some

cool due to being comparatively fresh and some warmer because nearer their hatching stage.

To pick up the excess heat given off from the eggs in the more advanced stages of incubation and transfer it to those in less advanced stages and requiring heat to be imparted to them, Smith went entirely counter to prior established practice in producing a continuous current of air passing over the eggs. That current performed two functions, *first,* it abstracted heat from the advanced eggs which tended to become overheated and gave that heat to the eggs which required heat; and, *second,* utilized the heat absorbing properties of the cool eggs to reduce the temperature of the older, hotter eggs.

In some of the earlier litigation on this patent, the Courts expressed the thought that picking up and transfer of heat could be effected only if the air, *as it left the fan,* first met the eggs in advanced stages of incubation (and therefore hot), and then the fresher, cooler eggs. This, however, would be so only if the air after picking up the heat from the advanced eggs went to the less advanced eggs and *then passed out of the incubator.* The early thoughts on this matter overlooked the fact that, in the Smith arrangement, substantially all of the air meets the eggs over and over again, in cycles; it does not pass out of the incubator but is recirculated. Thus, even if the air, as it leaves the fan, meets first the cool eggs and then the hot eggs, it picks up heat from the hot eggs and, as it comes around again, delivers that heat to the cooler eggs. After the cyclic action is once established, one cannot say whether or not the air meets *any* eggs first; it all depends upon the point in the circle from which one is observing.

As the Third Circuit Court of Appeals said, in the *Hill-pot* case (24 F. (2d) 341, 344):

> **"But when, as in Smith, the air moves in cycles through corridor and tiers it makes no difference after the first cycle which way it moves through the egg**

> **trays, whether from bottom to top or from top to bottom, or whether it first strikes warm eggs or first strikes cool eggs, for in every cycle after the first the current when passing warm eggs will gather up their heat units and carry them to the cool eggs precisely as claimed and will in the same way produce that uniformity of temperature which is the thing sought by the art and achieved by the invention."**

The Sixth Circuit Court of Appeals after first missing the point in the *Petersime* case (19 F. (2d) 721), corrected itself in the later *Blum* case when it said in referring to that earlier case (27 F. (2d) 333):

> **"In that opinion some acceptance was given to the theory that there is no infringement, unless the circulating air strikes first those eggs which are in the last stages of incubation and are generating the greatest heat. In considering a construction where the main current of air is brought in from outside, and in thinking of only the first circuit which this air makes, that thought seems applicable.**
>
> **"Counsel now point out, with much force, that in a case where the air does not come in from the outside in large volume, and that in any case during the circuits after the first one, no one point in the circuit gets the air ahead of any other point, in an absolute way. Which point gets it first depends upon where we consider the circuit to begin. We think we need not consider the effect of this defect in the reasoning —if it is a defect—of our former opinion."**

Nor, having in mind the cyclic movement of the air, can it make any difference whether the trays of eggs are arranged progressively (so that the fresher eggs are toward, say, the top of the stack of trays and those in the more advanced stages are toward the bottom, the freshest being in the top tray and the oldest in the bottom

tray) or the trays are mixed up so that, for instance, a tray of eggs in the more advanced stages is between two trays of fresh eggs, or a tray of fresh eggs is between two trays in more advanced stages. In either case the air will abstract heat from the advanced eggs and that heat will necessarily pass to the fresher eggs no matter what may be the direction of flow of the repeated cycles of movement of the air. This was the view of the Ninth Circuit Court of Appeals in the *Waxham* case, 70 F. (2d) 457, 460:

> **"The appellant seeks to avoid the claim of infringement by reason of the fact that the eggs in his machine are not placed in a single column with the fresh eggs at the top and eggs which are hatching at the bottom, but are distributed through the chamber without any endeavor to place them in this exact relationship. This difference is clearly immaterial where the air in a chamber is kept at a constant and uniform temperature and rapidly circulated. The result of currents of air moving with high velocity would be to transfer heat from the older eggs to the fresher and colder eggs in either event. The important thing is the high velocity of the air current, avoiding stagnation in the immediate vicinity of the eggs in later stages of incubation."**

In the incubator illustrated in the Smith patent the trays, after initially being placed in the racks, may be taken out and moved into any other position. Smith considered that it would be preferable to move the eggs progressively, but this requires that all of the trays in the racks be taken out and shifted every three days. A lazy man would soon find out that this was not necessary, and that, if he left the trays during the whole eighteen day period in the positions in which they were initially placed, the results would be just the same. And this is exactly what happened. Operators found that it was not necessary

to carry out the procedure of the specification to the last detail of egg tray shifting, but that, if they let the eggs repose where they were first placed, no difference was discernible in the result.

This proposition was thoroughly understood by the District Court in the examination of petitioner's witness, Mr. Taggart (Vol. I, p. 70):

> "Q. You said it does not make any difference about the direction of the air. Does it make any difference about the order of the eggs?
>
> A. No, sir.
>
> The Court: Well, at the same time, if he put those in various positions, he means to say that the changing of those positions of the eggs would not make any difference, and it would keep the air uniform and equal.
>
> The Witness: Exactly."

It has also been understood by the practical hatcheryman for years that he did not have to shift the eggs to get the desired results, and the Buckeye incubators made under the patent do not require shifting of the eggs. This is described at page 79 of Vol. I:

> Q. Do you know whether or not in the operation of the Buckeye machine they shift the eggs in the columns?
>
> Mr. Williamson: That is objected to as immaterial.
>
> A. It has been customary most of the time, although many operators do not do it. They put the eggs in a given position and leave them there until the eighteenth day, when they take them out and put them in the hatching rack. In fact, the Buckeye has sold some machines in which they recommend that to be the method to follow."

In operating a Smith incubator, were the eggs not shifted during the first eighteen days but allowed to

remain in their original positions, they would become scattered as to their ages as one set of trays is removed each third day to be placed in the hatching racks and a new set put in its place. There is no particular virtue in any specific arrangement. The licensee, the Buckeye Company, and various infringers have adopted all manners of egg settings, the permutations being almost unlimited, but in every case the results are the same, the current of air passing over the eggs equalizing the temperature throughout the mass whatever be the order of arrangement.

It follows as a necessary corollary of the point just discussed that shifting of the eggs during the first eighteen days is not necessary either. By shifting the eggs Smith retains the same order as to age. If order is immaterial, as it must be considered to be, the maintenance of that order is immaterial also. This was simply a refinement adopted by Smith but not essential to carry out the process.

There is no valid reason why the Smith invention should be so limited that every user could avoid it by merely neglecting to shift the egg trays every three days. The Eighth Circuit said that it could not see how the purposes of the Smith patent could be carried out without that step, but every incubator operator in the country knows that the shifting of the eggs is not essential.

Respondent has adopted a specific arrangement of his eggs by which they are "sandwiched" in the stacks, that is to say, trays of a given age are spaced apart; but there is no particular virtue in this. He knows very well, and every incubator operator knows, that any arrangement will work. In the *Waxham* suit a still different arrangement was adopted and that worked. Other infringers have adopted still other settings, and the process still works. So long as the air moves over the eggs with sufficient definiteness and velocity to conduct the heat away from the hot eggs and carry it to the cool eggs the

desired result will be secured. As was said by the Circuit Court of Appeals of the Ninth Circuit, 70 F. (2d) 457, 460:

> "The result of currents of air moving with high velocity would be to transfer heat from the older eggs to the fresher and colder eggs in either event."

A further answer to the whole question is found in the operations of the various defendants and the results secured. Were order of egg arrangement or maintenance of that order by shifting essential, none of the defendants would secure the equalization of temperature throughout the eggs. But they all do. Respondent "sandwiched" the eggs, and did not shift the eggs until the hatching day approached, but got the same equalization of temperature that Smith got, by blowing the air over the eggs.

POINT II.

The claim in issue requires no particular order or arrangement of eggs.

Claim 1 of the patent has been quoted in full above (*supra*, p. 12). Nothing appears in the claim that requires that the eggs be placed in any particular or definite order, and certainly nothing that requires that the eggs be placed in the specific manner set forth in the specification; nor is there anything in the claim that requires the eggs to be shifted progressively to maintain that order. Had the patentee intended to limit his patent either to the ordered progression of eggs from top to bottom of the column in the order of their ages or advancement in incubation, or had the patentee intended to have included as an essential step the shifting of the eggs downward, it would have been a comparatively easy matter to have so defined and limited the claim but no such limitation appears. The eggs must be set at "differ-

ent levels," that is to say, in order to secure the immense capacity which Smith secured, the egg trays are stacked one above the other. And it is also necessary to set the eggs at intervals of a few days so that "staged incubation" will be present in order to have the heat units "carried from the eggs in the more advanced stage of incubation to those in a less advanced stage."

The Circuit Court of Appeals of the Eighth Circuit, whose decision is here under review, expressly and correctly held that the claim in suit did not require the exact order of egg arrangement or the shifting of the eggs, for it said (70 F. (2) 564, 567):

> "The statement of the claim is that the eggs are arranged 'at different levels.' This is broad enough to cover any arrangement at more than one level."

The Court of Appeals of the Third Circuit in discussing the egg arrangement described in the specification of the patent in suit and the scope of the claims said (24 F. (2) 341, 343):

> "Undoubtedly that is the preferred method described and, certainly, that is the working of the apparatus of claim 4, not of the apparatus of claim 5. *But it is not the working of the methods defined by claims 1 and 2 for they are not so limited in terms.*"

Nor does the claim in suit require that curtains be employed at the sides of the central corridor of the Smith machine, for no such apparatus limitations appear in the claim.

Nor does the claim in suit require that the fans be located at any particular point in the cabinet, or that the current of air shall move through the eggs in any particular direction or plane. All that the claim requires is "applying a current of heated air" to eggs arranged at different levels, so that the equalization of temperature will take place. This equalization of temperature does not take place by picking up a heat unit from any one

egg or one tray of eggs and carrying these specific heat units to another specific tray of eggs, but the temperature is equalized by absorption of heat units by cold eggs and the surrender of heat units by hot eggs to and from the air stream which is passing continuously over and around all of the eggs.

The Court of Appeals of the Eighth Circuit specifically stated that the claim was by its terms of sufficient breadth to cover such an arrangement as is used by the respondent here for it said (70 F. (2) 564, 567):

> "It is with that claim" (claim 1) "only we are concerned for if it is to be given the full scope of its expression it covers the accused device."

But the Circuit Court of Appeals then proceeded to read into the claim details of egg arrangement described in the specification. Such arrangement may be preferred by some, but is entirely unnecessary for giving the results by the Smith method (pp. 18-24, *supra*).

POINT III.

The claim in suit is not limited by the file wrapper proceedings to the specific arrangement of eggs or to any of the other features upon which the respondent relies to escape infringement.

The Circuit Court of Appeals for the Eighth Circuit, whose decision is here under review, did not, in imposing a limitation on the claim, rely upon any estoppel growing out of the proceedings in the Patent Office, commonly known as "file wrapper" estoppel. But that has been urged by respondent, so we shall comment on it here.

It cannot be said that the arrangement of eggs or any of the other features stressed by the respondent as arguments for non-infringement were added to the claims

as a condition of allowance by the Patent Office, for none of those things appear in the claims.

The principle of file wrapper estoppel is well known and well understood. It is set forth in the decision of this Court in *I. T. S. Co.* v. *Essex Co.*, 272 U. S. 429. As the Court said (p. 443):

> "he" (the patentee) "cannot after the issue of the patent broaden his claim by dropping the element which he was compelled to include in order to secure his patent."

As none of the features upon which the respondent relies for non-infringement is included in the claim, we cannot be accused of seeking to read out of the claim any of the features relied on.

Nor was there any intention on the part of Smith or his attorney that any one of these elements be included, nor any argument made for allowance based upon such features. The entire argument tendered with the claims at the time of their allowance was as follows and we quote it to show that the distinction which we have stated as between natural or induced drafts (which leave stagnant places at some eggs) and the forced current to give air movement *throughout* the incubator (which respondent uses) was recognized and stated when the claim in issue was allowed (Vol. II, pp. 927, 931):

> "*Natural* drafts seek and follow the same paths and when employed in incubators leave untouched areas of the egg chamber. This causes an uneven distribution of the heat and a variation of temperature that makes it impossible to successfully hatch eggs placed at different levels; and this is equally true of induced drafts caused by heating outlet pipes of the egg chamber. Convincing proof of this is found in the affidavit of George Cugley filed herewith.
>
> **"Applicant by the introduction of a current produced by mechanical means distributes and diffuses the heat throughout the egg chamber and gives an even temperature in all parts of the chamber whereby**

it is possible to place the eggs at different levels; but this is not all; it is essential that a sufficient amount of moisture be retained for successful incubation and to that end the outlets for escape of foul air are restricted. The vitalizing effect of agitating the air within the chamber by a power driven current makes possible the use of restricted outlets and the moisture is thereby conserved within the chamber.

"The *induced* drafts of the new references are for the purpose of freeing the incubator of foul air. Such drafts not only follow certain paths leaving areas of the chamber untouched as heretofore pointed out; but they entirely exhaust the moisture from the egg chamber and thereby destroy the hatch. There is a vast difference—just the difference that distinguishes success from failure—between the old art of natural and induced drafts and the power driven current of applicant with its restricted outlets giving a uniform temperature, vitalizing the air and conserving the moisture in the air within the egg chamber.

"While it is true the egg conveyor of Winkler is arranged with one section above another he depends entirely on having a separate heater for each section adapted to the stage of incubation of the eggs in its section. Furthermore, although his patent was issued as far back as 1883 his construction is not known on the market today showing it could not have been a success. It lacks the essential features that have made the device of applicant a successs.

"The so-called Mammoth Incubators of recent years are all made with the egg trays in the same horizontal plane. In other words, the old units are simply multiplied each having a single tray, the combination making an incubator of great length, whereas by the method of applicant the egg trays can be placed in column allowing the incubator to be built in compact form, so that the material employed, cost of construction and space required is vastly less and the cost of fuel and attendants to operate is proportionately reduced.

"Applicant's incubator is clearly distinguished in that a power driven current is employed to establish a uniform temperature throughout the area of the egg

chamber whereby the eggs can be placed at different levels and the restricted outlets conserve the moisture in the chamber, this restriction and conservation being made possible by the vitalizing effect of the power driven current.

"Applicant has discovered a new method of successfully hatching eggs continously in large numbers and should be protected in it. An allowance is respectfully urged."

The above argument can be carefully and painstakingly searched but no reference whatever appears therein to a specific order of eggs or to any order of eggs; no reference to shifting the eggs; no reference to the location, size or speed of the fans, or to the direction of the air current; and no reference to the curtains or partitions.

There, therefore, could not have been in the mind of the applicant, or in the mind of the Examiner who allowed the claim, any of these considerations. The argument, on the contrary, was directed solely to the different effects of "a current produced by mechanical means" over drafts caused by variations in temperature. "The vitalizing effect of agitating the air within the chamber by a power driven current" was the feature emphasized by the attorney.

It frequently happens that the Examiner takes a hostile attitude toward an invention, as was the case here, but is finally convinced of the presence of invention, and allows adequate claims to protect it. So, in the present case, some of the claims appearing during the prosecution of the application were narrower than claim 1 of the patent. This is a matter of no consequence.

A case directly in point is *Westinghouse Electric & Mfg. Co.* v. *Condit Electrical Mfg. Co.*, 194 F. 427-430 (C. C. A. 2d):

> "Sometimes such proceedings are of importance, especially where a matter of estoppel is involved. Thus a patentee who, in order to avoid a rejection of his application, inserts limitations in his claims is estopped from contending that the patent as issued

should be construed as if such limitations had not been made. But, as a general rule, the interpretation to be placed upon the claims and specification of a patent is to be determined from the language of the grant, and the proceedings in the Patent Office are quite immaterial. Such is the situation in the present case. *Original claims were rejected in the Patent Office. Thereupon the applicants, instead of limiting their claims, substituted broader ones which were accepted.* Presumably the examiner changed his mind. But whatever be the explanation of his position, nothing whatever is shown to work an estoppel against the patentees. *Instead of surrendering something which they now claim to obtain that which was allowed, they claimed something more and got it.*"

After the prosecution of the Smith patent got under way, the attorney fought consistently and unremittingly for the allowance of claims on the forced-draft-staged-incubation invention. Not once did he amend the claims to set free that invention, nor did he in a single argument for the allowance of the method claims, urge any other considerations than the advantages and merits of that conception.

Also, some claims appeared in the application at various times, which were broader than those allowed. This is again a matter of no consequence, for if the claims, as allowed, are of sufficient breadth to cover the respondent's mode of operation, infringement must follow.

This principle of law was stated in *Baltzley et al.* v. *Spengler Loomis Mfg. Co., et al.*, 262 Fed. 423-426 (C. C. A. 2d):

"Having from this viewpoint examined the file wrapper, we are of opinion that the patentee's disclosure stated fully and at first facts sufficient upon which to ground the claims in suit, and such claims or their equivalents he never receded from. *Many claims, first propounded, were obviously too broad; but Baltzley never 'accepted limitations imposed by the rejection of broader claims' and affecting the*

claims in suit. The residuum is ample for the purposes of this case. See *Goodwin, etc.* v. *Eastman, etc. Co.* (D. C.), 207 Fed. 357, affirmed 213 Fed. 231, 129 C. C. A. 575."

A leading case is *National Hollow B. B. Co.* v. *Interchangeable B. B. Co.* (106 Fed. 693, 714), where the Circuit Court of Appeals of the Eighth Circuit said:

> "It is true that if a patentee acquiesces in the rejection of his claim on references cited in the patent office, and accepts a patent on an amended claim, he is thereby estopped from maintaining that the amended claim covers the combinations shown in the references, and from claiming that it has the breadth of the claim that was rejected. *Roemer* v. *Peddie,* 132 U. S. 313, 317, 10 Sup. Ct. 98, 33 L. Ed. 382; *Morgan Envelope Co.* v. *Albany Perforated Wrapping Paper Co.,* 152 U. S. 425, 429, 14 Sup. Ct. 627, 38 L. Ed. 500; *Brill* v. *Car Co.,* 90 Fed. 666, 668, 33 C. C. A. 213, 215, 62 U. S. App. 276, 282; *Railroad Co.* v. *Kearney,* 158 U. S. 461, 469, 15 Sup. Ct. 871, 39 L. Ed. 1055; *Knapp* v. *Morss,* 150 U. S. 221, 14 Sup. Ct. 81, 37 L. Ed. 1059; *Crawford* v. *Heysinger,* 123 U. S. 589, 8 Sup. Ct. 399, 31 L. Ed. 269. But this is the limit of the estoppel. *One who acquiesces in the rejection of his claim because it is said to be anticipated by other patents or references is not thereby estopped from claiming and securing by an amended claim every known and useful improvement which he has invented that is not disclosed by those references."*

It is also well known, as stated by this Court in the case of *Smith* v. *Magic City Club* (282 U. S. 784, 790):

> "The patentee is thereafter estopped to claim the benefit of his rejected claim or such a construction of his amended claim as would be equivalent thereto."

This rule does not apply in the instant case. The respondent in the Court below selected a number of the broader claims as examples to bring this case within the

quotation above, but it will be found upon examination of each and every one of these claims, and comparison of those claims with claim 1, that the rejected claims did not include the limitation to—

> "a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture."

It was the inclusion of *this* element in the claims and the concurrent amendment to the specification (Vol. II, p. 925) which secured their allowance. Prior to this time there had been no limitation of the process to the step of conserving the moisture by subjecting the eggs to the current of air in the substantially closed chamber, and this feature, though shown, had not been emphasized in the specification. In this amendment to the specification the sentences which begin line 43 of page 2 of the patent were added, reading:

> "The outlets 28 for the release of foul air are made of such restricted capacity as to prevent the undue escape of moisture. It is possible to limit the openings and so conserve the moisture by reason of the vitalizing effect of the power driven current upon the body of air within the chamber."

This was the first time in the prosecution of the application that the essential step of moisture conservation was emphasized; it was accompanied by a supplemental oath (Vol. II, p. 933) and the allowance of the claim followed immediately thereafter.

But the respondent can take no comfort from this limitation for respondent's incubator has small, regulatable openings for the intake of limited amounts of fresh air and small openings for the escape of the foul air "without undue loss of moisture."

It will also be noted that this addition to the claims brings into the patent the thing upon which is based the recirculation of the air, which makes the order of egg arrangement immaterial, *i. e.*, the fact that the chamber

is substantially closed gives rise to the recirculation of the air in the closed cycle characteristic of the Smith invention.

The file wrapper is not hard to follow. Nevertheless some of the Courts below have made statements concerning it which are difficult to understand and impossible to substantiate.

The opinion of the District Court in the *Hillpot* case which has been cited at great length by the respondent here in the Court below, and by other defendants, stated (22 F. (2) 855-857):

> "Step by step through the Patent Office did Smith limit his claims to the passing of the air currents from the eggs in the more advanced stages of incubation to those in less advanced stages of incubation. Day after day he was forced to limit his early broad claims for circulating the air through the eggs arranged in columns to forcing air in a given direction."

This statement was unjustified. At not a single point in the Smith file wrapper did he limit himself to "passing of the air currents from the eggs in the more advanced stages of incubation to those in the less." Nor did Smith at any stage of the proceedings limit his claim to "forcing air in a given direction." The "units of heat" are to be carried from the hot eggs to the cooler eggs and, having in mind the Smith repeated, cyclic flow of air in the closed chamber, it is entirely immaterial in what direction the air current flows to accomplish this result (see pp. 18-24, *supra*).

Judge Hough of the Southern District of Ohio in *Boling* v. *Buckeye* (33 F. (2) 347, 351) said "Smith must be pinned down and limited to his own theory as required by the Patent Office and the decision of our Court of Appeals." There is not a single thing in the proceedings in the Patent Office which limits Smith beyond the clear, unambiguous language of Claim 1 as allowed, and *certainly Judge Hough misunderstood and misapplied the rulings of his own Circuit Court of Appeals, which* REVERSED *him* (46 F.

(2) 965) *and sent the Boling cases against users on to be tried resulting in a holding of infringement by Judge Cavanah in the Jensma case* (1 Fed. Supp. 999).

The Circuit Court of Appeals for the Third Circuit in the *Hillpot* case said that the file wrapper points out the fact that curtains make "a tight closure between the corridor and the compartments." *This phrase occurs in the Examiner's letter of March 24, 1917, in the discussion of then claim 17 which was an apparatus claim* (Vol. II, p. 889). It is indeed a new and novel theory that the comments of the Examiner on a detailed apparatus claim can limit the applicant in his broader process claims.

The Court said that the file wrapper speaks of "air passageways". As this expression occurs only in more limited apparatus claims which were cancelled during the prosecution of the application and does not appear in the claim in issue or the argument submitted therewith, it can have no limiting effect upon the claim as allowed.

The Court also referred to the presence of the phrase "vertically directed current", but this limitation, as noted above, appears in claim 3, not in suit, and the claim in issue is therefore to be considered as intentionally omitting this limitation.

As was said in *Symington* v. *National Castings Company,* 250 U. S. 384, 385:

> "There is nothing in Byers' claims which were sustained indicating that the pocket is to be integral, while there is a distinct call for such a pocket in claim 9. The difference in terms points persuasively to a difference in purpose * * *"

See also

Skelton v. Baldwin, 58 F. (2d) 221, 227 (C. C. A. 4).

Los Angeles Art Organ Co. v. *Aeolian Co.,* 143 Fed. 880-885 (C. C. A. 9).

Wm. B. Scaife & Sons Co. v. *Falls City Woolen Mills,* 209 F. 210-215 (C. C. A. 6).

The ten references to "forced circulation of heated air" are of no importance here, for the respondent admittedly employs "forced circulation of heated air". The same is true of the phrase "currents" to which the Court of the Third Circuit referred, for the respondent employs "currents" of air.

The references to "columns of heated air" appear in connection with the specific embodiment of the invention described in the specification and in original claims 3 and 4 subsequently cancelled (Vol. II, p. 861). As this limitation is not in the claim in issue nor in the argument upon which it was allowed, it cannot be said to affect its scope in any way.

The Third Circuit further said that Smith yielded "to the demand of the Patent Office that the 'circulation of air should be included and defined' ". This particular phrase appeared in the action of March 24, 1917 (Vol. II, p. 891) and had reference to a detailed apparatus claim. It, therefore, has no bearing upon the broader process claims which were allowed, and this casual phrase of the Examiner has no bearing upon the scope of the claim as allowed, as it was never repeated in the Office actions which intervened before allowance.

Finally, the Court said (p. 344):

> "Smith acquiesced in repeated rejections of his claims, proposed others and finally accepted those allowed, in each of which is embodied the conception of air movement by currents in defined channels."

This statement is wholly unwarranted for *claim 1 of the patent as allowed, contains no reference whatever to "currents in defined channels"*, nor does the supporting argument contain a reference to this feature.

That Court also erred in stating (p. 344) that "nowhere in the file wrapper, specification or claims of the patent do we find any reference to air agitation." In the very argument which accompanied the allowed claims the attorney said "The vitalizing effect of *agitating* the air within the

chamber by a power driven current makes possible the use of restricted outlets," etc. (Vol. II, p. 929). The claims were, it is true, limited to a flow of a *current* of air—which this respondent uses—as distinguished from *mere* agitation which would leave local stagnant spots where there would be no adequate transfer of heat.

The prosecution of the apparatus claims has no bearing whatsoever on the method claim which is under discussion here. We rely upon the fundamental rule stated by this Court in *Tilghman* v. *Proctor,* 102 U. S. 707, 721, or *Carnegie* v. *Cambria,* 185 U. S. 403, that a method or process is independent of apparatus for carrying it out. Whatever limitations Smith may have added to his *apparatus* claims, cannot affect the different invention of his *method,* nor can the narrower limitations of method claims 2 and 3 affect the scope of claim 1 in issue.

The Courts below have simply floundered about the file wrapper. In truth it is nothing more than the usual record which is found in dealing with an Examiner who is only brought to see the light after repeated actions by the attorney. Statements that the file wrapper imposed any limitations of which this respondent can take advantage are without foundation, and, as we have said, the decision under review did not find that any limitations were so imposed.

POINT IV.

The respondent infringes.

(1) Respondent's method is the same as the Smith method.

All of the steps of the Smith method are found in the operation of respondent's machine. There is no difficulty in locating the closed chamber, the restricted openings for the escape of foul air and openings for the introduction of a restricted amount of fresh air, and we have the eggs arranged in different levels in different stages of incubation. There is no dispute on those points.

As shown above (pp. 13-16) there is also in this machine forced circulation of air of a velocity sufficient to cause the air to move *throughout* the chamber, leaving no localized stagnant areas. The air from the corridor moves in current form over the eggs to the fans on the side walls. The air is then propelled along the walls of the cabinet until it reaches the corridor and is drawn again over the eggs to the fans in an endless circuit. The speed of the current in the respondent's machine is somewhat higher than the speed of the current in the Smith machine. This is not disputed by the respondent.

The eggs in the respondent's machine are in the several stages of incubation, and the current of air, as it passes over these eggs, picks up heat from hot eggs and distributes that heat to the cold eggs. The air moves in continuous cycles impelled by the fans in respondent's machine, the moisture is conserved, the air made life-giving, and the temperature throughout the chamber is maintained substantially uniform.

The respondent therefore employs every element of the claim in suit. He also secures the same result in substantially the same manner, for he hatches a plurality of eggs by passing a current of heated air over eggs in staged incubation, in repeated cycles, just as Smith does, and

thereby the temperature of all of the eggs is equalized, or, in other words, the units of heat from the hot eggs are transferred to the cool eggs.

Mr. Taggart, a witness for the petitioner, testified (Vol. I, p. 110) that the fans in the respondent's machine are of such capacity and create such a volume of air that they generate the direct and definable current without the use of means for guiding or directing it:

> "The air is being forced fast enough and in sufficient volume so that it will penetrate all parts of the machine, and there is no necessity for directing or guiding it with curtains or other means; in other words, it flows fast enough to definitely establish its own path."

Nor can the respondent dispute that statement for his own expert said (Vol. I, p. 366):

> "Q. And, in the Snow machine, we have a plurality of eggs that are stacked in tiers, one above the other, do we not?
>
> A. Yes, sir.
>
> Q. And we also have eggs which are in various stages of incubation, do we not?
>
> A. Yes, sir.
>
> Q. *And we have a current of air in that Snow machine, do we not?*
>
> A. *Yes, we have a current of air through there.*"

In fact, it would be an impossibility to obtain anything other than an orderly movement of air in definite paths in a machine containing a substantially enclosed body of air propelled by fans of the size and capacity used by respondent and running at constant speeds and in fixed direction. The air would necessarily set up a continuous and regular cycle of movement, which would develop into a regular defined and definable current throughout the chamber.

This statement does not exclude, of course, that at certain points in the interior of the chamber, the air will

be turbulent while moving as a whole. It is impossible in any incubator in which the air is impelled with sufficient velocity to accomplish the results which Smith accomplished, to avoid some eddy currents, ebullition, boiling or whipping of the air as it passes over egg trays and about the interior of the cabinet. But the main body of the air as it passes over the eggs is in steady current form moving continuously and uninterruptedly in a constant direction, and it effects the desired heat transfer adequately cooling the hot eggs and heating the colder eggs.

Judge Molyneaux in the District Court in the present case, saw respondent's machine in operation and made definite fact findings that that machine had current movement of air for he found (Vol. I, p. 23):

> "23. The defendant, * * * employs a process in which the current movement of the air in defined paths is secured by mechanical means such as fans."

After all, the purpose of the fans in the Smith patent, as stated in the claim, is to propel the air over the eggs with "sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature," and, as said in the specification p. 2, lines 73 to 78:

> "It is obvious that the fans can be so arranged and can be operated at such speed as to cause the hot air to circulate fast enough to keep the temperature throughout the chamber between the limits of 100° and 105°."

Snow stated that the air within his incubator was circulated so that the same temperature was maintained through the whole cabinet (Vol. I, p. 163):

> "Q. Have you found in your experience with your own machine that you have any cold or hot spots, compared with the condition of other parts of the incubator?

A. We do not have no hot or cold spots in my incubator; that is, not hot or cold spots that would cause any damage whatsoever; that would amount to a trifle.

Q. Is that due to the more thorough circulation of your air?

A. Yes sir, and the air not being driven such a long distance."

(2) The claim is the criterion of infringement—not the specification.

The scope of the Smith patent is to be determined by the *claim* in suit and not by the detailed description in the specification.

> "The invention, of course, must be described and the mode of putting it to practical use, *but the claims measure the invention.*" (Paper Bag Patent Case, 210 U. S. 405, 419.)

If, therefore, the elements of the claim in suit are to be found in the respondent's operations, and the Circuit Court of Appeals of the Eighth Circuit expressly found that they were (p. 26, *supra*), then a finding of infringement should have followed.

It was the failure of the Eighth Circuit to understand or appreciate the effect of the recycling body of air which led it to the erroneous conclusions on the scope of the Smith patent. The opinion of that Court frankly admitted that it was unable to see how the heat transfer could be effected unless the air, as it left the fan, struck the hot eggs first and then proceeded to the cold eggs. The Court said (70 F. (2) 564, 568) "it is difficult to see how the desired results can be secured except by a current of air passing first through the trays containing the most advanced eggs." The fact that no reference was made by the Court to the recycling movement of the air (see pp. 18-24, *supra*), shows that it did not understand it, for, if it had, the difficulty expressed would have been cleared up.

The only explanation which can be given for failure to apply the rule that the claim is the measure of the invention, is that the Eighth Circuit could not understand how the results specified could be secured in any other way than the specific manner disclosed in the patent. From this fundamental error, the other errors flowed.

Had the Court understood the cycle movement of air in the Smith process and appreciated its effect upon egg arrangement, it would not have failed to apply the rule that the inventor is required by Section 4888 of the Revised Statutes only to explain his invention "and the best mode in which he has contemplated applying that principle." As pointed out by this Court in the *Paper Bag Patent Case,* 210 U. S. 405, 418, the inventor is required to point out "the best mode, but he is not confined to that. If this were not so most patents would be of little worth." The Statute then requires that the inventor shall particularly point out and distinctly claim the "part, improvement or combination which he claims as his invention or discovery." The Statute makes it quite clear that the specification or descriptive part of the patent is for the purpose of enabling those skilled in the art to understand the invention, but when the scope of the patent is to be determined it is the claims which control. This Court went on in the cited case to say, as we have quoted above, that "the invention, of course, must be described and the mode of putting it to practical use, *but the claims measure the invention.*"

The remarks of this Court in *Winans* v. *Denmead,* 15 How. 330-343, are particularly apt:

> **"Patentees sometimes add to their claims an express declaration, to the effect that the claim extends to the thing patented, however its form or proportions may be varied. But this is unnecessary. The law so interprets the claim without the addition of these words. The exclusive right to the thing patented**

is not secured, if the public are at liberty to make substantial copies of it, varying its form or proportions. And, therefore, the patentee, having described his invention, and shown its principles, and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of those forms."

In the Smith patent there was no intention to disclaim other forms. Smith merely illustrated what he considered as the most perfect embodiment of his invention.

See also:

Robinson on Patents, #485, Vol. II, page 75:

> "The applicant is not required to describe all possible forms in which this principle may be reduced to practise, or even all such forms as he may have himself adopted. These belong to the skill of the mechanic, not the inventor; and having one embodiment before them, the public are presumed to be able to construct such others as they may desire."

So, after all, to measure the scope of the Smith invention we must turn to the claim in suit, and, as pointed out in the earlier portion of the brief, there is no limitation to any order of egg arrangement or to the movement or shifting of the eggs during the process.

The Circuit Court of Appeals of the 8th Circuit in deciding the present case overlooked its own holding in *McDonough* v. *Johnson-Wentworth Co.,* 30 F. (2) 375, 384:

> *"And the particular forms of devices described in the specifications are to be considered as merely forms of devices preferred by the inventor. Continental Paper Bag Co.* v. *Eastern Paper Bag Co., supra; National Hollow B. B. Co.* v. *Interchangeable B. B. Co.,* 106 F. 693, 715 (C. C. A. 8); *Owens Co.* v. *Twin City Separator* Co., 168 F. 259 (C. C. A. 8). *The claims of a patent, and not necessarily the description, measure the invention. Continental Paper Bag Co.* v. *Eastern Paper Bag Co., supra."*

The instant case is clearly distinguished from the case of *Snow* v. *Lake Shore Railway Co.* In that case we find that the claim in suit there read (121 U. S. pp. 617, 630):

> "the combination of the cylinder A, piston G, piston-rod D, slotted rod C, and crank B, *when constructed and operated substantially as described.*" (Italics ours.)

As said in the *Paper Bag Case* that was "a case where a claim was limited by a description of the device, with reference to the drawings." No such limitation appears in claim 1 of the Smith patent. The claim of the Smith patent concludes with the expression "for the purpose specified." Not in the *manner* or *mode* specified but *for the purpose specified.* The purpose specified in the Smith patent is a "method * * * particularly designed for extensive operations wherein a chamber of large dimensions is adapted to contain thousands of eggs in separate trays arranged in tiers and the method of heating is such that the heated air is adapted to the eggs in various stages of incubation." (p. 1, ls. 8 to 15.)

Even if Smith had not thought of any other arrangement of eggs to accomplish results sought for, and for this reason the specification did not disclose any alternative, this would be a matter of no consequence; for he was not required to state all of the possible permutations in which the eggs may be set and still accomplish the objects of his invention.

(3) The claim should not be limited so as to deprive the patentee of his actual invention:

The Court below did not give to the Smith patent that fairness of treatment to which it is entitled in view of the invention actually made and what it has accomplished in this art.

The Smith invention has completely revolutionized the art of incubation and its claim is entitled to cover what accomplished that great advance. Its commercial success

and acceptance in the trade, accompanied by the widespread adoption of its principles and the complete replacement of old processes in this art, entitle it to something other than a forced narrow interpretation of the claim.

> "Where an invention is one of a primary character, and the mechanical functions performed by the machine are, as a whole, entirely new, all subsequent machines which employ substantially the same means to accomplish the same result are infringements, although the subsequent machine may contain improvements in the separate mechanisms which go to make up the machine." (*Morley Machine Co.* v. *Lancaster,* 129 U. S. 263, 273.)

The Court, in the present case, said (Vol. II, p. 989):

> "Appellee contends for a broad scope while appellants urge a very narrow scope."

Admittedly, therefore, the Court adopted the "very narrow scope" for which the defendant contended. In so doing it brushed aside entirely those considerations which should have weighed in the scale in favor of the Smith patent. Smith undoubtedly changed the entire course and practice of incubation by just what is recited in his claim, and his invention has been adopted and followed by every worker in the art since. His conception, as we have pointed out, has been the foundation of an immense business, and has been the inspiration for countless imitators so that this patent has been the subject of possibly more infringement suits than any patent issued within recent years. The Court refused to follow the established rule which was laid down by this Court in dealing with inventions of this type. As stated in *Eibel* v. *Paper Co.,* 261 U. S. 45-63:

> "In administering the patent law the court first looks into the art to find what the real merit of the alleged discovery or invention is and whether it has advanced the art substantially. If it has done so, then the court is liberal in its construction of the patent to secure to the inventor the reward he deserves."

The narrow interpretation of the claim in suit imposed by the Eighth Circuit robs Smith of the fruits of his invention by permitting inconsequential changes which do not alter the fundamental principles of incubation which he first promulgated.

As stated in *Winans* v. *Denmead,* 15 How. 330, 341:

> "There being evidence in the case tending to show that other forms do in fact embody the plaintiff's mode of operation, and, by means of it, produce the same new and useful result, the question is, whether the patentee has limited his claim to one out of the several forms which thus embody his invention.
>
> "Now, while it is undoubtedly true, that the patentee may so restrict his claim as to cover less than what he invented, or may limit it to one particular form of machine, excluding all other forms, though they also embody his invention, yet such an interpretation should not be put upon his claim if it can fairly be construed otherwise."

And as said in *McClain* v. *Ortmayer,* 141 U. S. 419, 425:

> "It is true that, in a case of doubt, where the claim is fairly susceptible of two constructions, that one will be adopted which will preserve to the patentee his actual invention."

As stated in the *Brake Beam* case (106 F. 693-715):

> *"That interpretation which sustains and vitalizes the grant should be preferred to that which strikes down and paralyzes it."*

(4) The prior art emphasizes that Smith's claim should not be limited:

None of the prior patents or uses approaches the Smith invention or in any way requires limitations to be placed about Claim 1, which would relieve the respondent of the charge of infringement. A consideration of them merely serves to emphasize that the Smith claim should be construed as we have outlined, and to cover what it expresses.

The reference upon which the respondent primarily relied in the Courts below, was the German patent to Stulik, No. 155,917, taken out in 1901 (Vol. II, 729).

This is the most venerable of all the old chestnuts which have been examined by the Courts and rejected as failing to anticipate Smith. It was cited by the Patent Office and the claims allowed over it. It has also been in the *Cooley, Hillpot, Blum* and *Waxham* cases, and the patent has been sustained over it. We had supposed that this patent had been laid away so effectively in the *Hillpot* case that its ghost would never walk again.

In Stulik, trays of fresh eggs are introduced at the bottom of the chimney or stack, and as incubation progresses are moved upwardly in the stack, trays of fresh eggs being inserted at the bottom. The eggs are subjected to an upward rising current of warm air which strikes the cool eggs first, then going to the advanced eggs and *then leaving by the chimney.* There is, therefore, no forced draft, no closed circuit or recirculation of air, and as the air which passes over the hot eggs never returns to the cold eggs there is no heat transference from hot to cold eggs. As stated by Judge Woolley (24 F. (2) 341, 343):

> "The movement of motor driven heated air in Smith is unlike the movement of heated air in the German patent to Stulik, No. 155,917, 1901, confidently cited by the respondent, where it starts at the bottom of a chamber, ascends straight up through trays of eggs of different temperatures and goes out at the top. In Smith, after the air enters, there is no quick exit. The first requisite is a closed chamber and from this chamber no air, except foul air, escapes; the main body is retained in the chamber and is moved in cycles through the corridor and egg columns, around and around, on and on, without any defined end. If, as in Stulik, the air entered, ascended and departed, passing the eggs but once, then, manifestly, the heated air in order to pick up heat units from warm eggs and use them in warming cool eggs must first strike the warm eggs—those in the more advanced stage of incubation."

So Stulik could never accomplish the results accomplished by Smith.

Much emphasis was laid upon the Proctor patent 426,321 for driers (Vol. II, 769) and the Schwartz patent No. 535,175 (Vol. II, 829) for processes of tobacco ordering. The problems and conditions required for the successful performance of egg hatching are so remote from the problems and conditions required for the successful performance of these references, that there is no analogy despite superficial resemblance in machines.

These patents have been before the Courts in other cases and have been rejected as inadequate. See the remarks of Judge Westenhaver in the *Blum* case and Judge Woolley in the *Cooley* case.

The general art of heating and ventilating is also remote and offers no suggestion of the solution of the mass hatching of eggs. The reference to the heating and ventilating system for the Senate room of the Capitol and the other patents on heating and ventilating living rooms are inapplicable to the problems here involved. In this connection, see the language of Judge Westenhaver in the *Blum* case:

> "I do not agree that Smith's invention is in an art so closely analogous to heating and ventilating that it is anticipated or deprived of patentable novelty by devices found in the latter art, even though by slight changes the same might be made available to hatch eggs." (17 F. (2) 456-7.)

The Court of Appeals of the Sixth Circuit agreed with Judge Westenhaver for it has, as noted, repeatedly sustained the validity of the Smith patent.

The other patents cited by the respondent relating to incubators have been considered by the Patent Office and by the Courts in earlier cases. The small cabinet machines have no bearing upon the Smith invention for they lack both staged incubation and forced draft.

The Winkler patent No. 286,756 (Vol. II, 615) also cited by the Patent Office shows a very peculiar style of incubator, in that the eggs are carried upon a moving chain or conveyor, through a series of turns or convolutions, the eggs rolling along inclined platforms and dropping over pulleys until they are delivered at the bottom of the machine, and chicks are supposed to be hatched on an endless belt. Whatever convection currents would be set up in the device would be entirely inadequate to equalize the temperature throughout the machine, and this conclusion is reinforced by the fact that Winkler makes special provision for heating the various sections or runs of the conveyor to different temperatures by arranging to have the hot water pans hotter over the cold eggs than over the eggs in the more advanced stage of incubation. There is no movement of the air in a cycle through the machine. This patent issued in 1883, may we believe, be regarded as an impractical, crude, inoperative device, having no effect upon the art, and entirely without merit. It is one of those attempts to solve the problem which remained unsolved until Dr. Smith pointed the way.

In the Zimmer patent No. 1,075,747 (Vol. II, 801) the eggs are set in shallow trays, one tray a day, for ten days until a stack of ten trays is obtained with the oldest tray at the top. Heavy feather mats are placed between the several trays. Heat is applied during the first ten days, and the incubator is closed up tight. No air can get to the eggs, and when the operator wants to perform the necessary turning of the eggs, the whole stack must be taken out and replaced in the incubator. At the end of twelve days the whole stack of trays is taken out of the chamber and reversed in order, with the oldest eggs at the bottom of the stack and no fresh eggs are added thereafter. There is, therefore, no period when the oldest hottest eggs and the newer coldest eggs are in the same chamber. The weight of the superposed eggs is supported by the underneath eggs, and as the eggs "expand by heat," the pressure of the

eggs above "disintegrates" the shells. What happens to the embryo within the shell with the weight of the eggs on top of it, closed in by feather mats above and below, and with fresh air excluded from it, is apparent. In addition to these extremely uncomfortable conditions it is subjected to the heat given off by itself and the hundreds of embryos about it. As a result the embryo, if it ever started to live, would be cooked to death within the closed pot of the Zimmer patent.

The Zimmer patent is the most modern of the citations on staged incubation and is the high point in the art prior to Dr. Smith. It is such an absurd scheme upon its face, that it must be rejected as not pertinent.

This leaves for consideration the vague and admittedly incomplete description of the incubator in Ure's dictionary (Vol. II, 805). This is said to represent a method of incubation employed by the Frenchman, Bonnemain, before the French Revolution, *and not used since.*

As stated by the Supreme Court in *Cohn* v. *United States Corset Co.,* 93 U. S. 366-370:

> "It must be admitted that, unless the earlier printed and published description does exhibit the later patented invention in such a full and intelligible manner as to enable persons skilled in the art to which the invention is related to comprehend it without assistance from the patent, or to make it, or repeat the process claimed, it is insufficient to invalidate the patent."

See also *Robinson on Patents,* Sec. 329, Vol. I, page 450:

> "The invention described in the publication must be identical in all respects with that whose novelty it contradicts. The same idea of means, in the same stage of development, as that which the inventor of the later has embodied, must be thereby communicated to the public. The invention thus described must also have been a complete and operative art or instrument, ready for immediate employment by the public."

This publication shows a room in which eggs are to be placed at daily intervals. The room is heated by a continuous length of pipe through which hot water is to be conducted. No provision is made for the different heat requirements of the eggs in the various stages of incubation; and the advanced, heat producing eggs are subjected to the same conditions as the earlier, heat absorbing eggs. There is no provision for forced draft. As stated by Mr. Taggart (Vol. I, 406):

> "I do not doubt but what the operators would get a few chicks, but it certainly would not be commercially operative in that day, and it is not today."

The fact that the scheme shown has never been revived or used since the days of the French Revolution is sufficient to condemn it as impractical. It certainly does not affect the Smith invention.

The testimony of Mr. Taggart (Vol. I, p. 400) drawn from his knowledge of the practical art, as to the various unsuccessful attempts to practice staged incubation confirms the silent evidence of the sterile, impractical paper patents of the prior art. The respondent's insistence upon the use of the forced draft in his machine attests most strongly to the necessity of the Smith combination for successful commercial hatching.

It is a wholly erroneous notion, harbored at one time by the respondent, that Dr. Smith's experimental work leading up to the invention or "public use" in the years 1913 and 1914, limited in some way the scope of the Smith patent. At the same time that Dr. Smith added the step of staged incubation to his process he also added the curtains at the sides of the central corridor better to direct through the cabinet the comparatively feeble air currents propelled by the small fans which he then employed.

The fact that Dr. Smith added the curtains to his machine in the year 1915 has been seized upon by numerous defendants, including this respondent, as the differentiation between the Smith "prior use" and the Smith

invention. They have either overlooked or deliberately mislead certain Courts into the erroneous belief that the presence of the curtains was the *sine qua non* of the Smith invention. (See p. 9, *supra.*)

We believe that the history of the Smith invention (pp. 9-11, *supra*) successfully disposes of all contentions for non-infringement based upon the omission of curtains or partitions in the interior of his cabinet. *The curtains or partitions do not appear in the claim nor do they have to be read into the claim in order to save it from anticipation by Smith's prior use.*

Nor is it possible, under well settled rules of law, to use the incomplete and imperfect efforts of Smith to restrict his successful completed invention.

As stated by the Court in *Smith & Griggs Mfg. Co.* v. *Sprague,* 123 U. S. 249-255:

> " 'The present case is that of a machine which was imperfect, and which demanded and received the continuous experiments of the inventor to remedy the defects in its organization. It is not true that the inventor cannot safely use for profit such a machine in its imperfect state, lest two years should elapse during the experimental period before the invention is completed and the patent is applied for.' *Sprague* v. *Smith & Griggs Mfg. Co.,* 12 Fed. Rep. 721.
>
> "We think this view might be correct and applicable to the case if the invention of the complainant, which he sought to embody and protect by the patents, consisted of the entire machine as he ultimately constructed and operated it, considered as a unit; for, in that view, it would have been imperfect and incomplete, and merely experimental, until it had received from its inventor every element necessary to its operation."

It has been made clear, therefore, that no one, even including Smith in 1913 and 1914, had, prior to the invention here in suit, brought together the steps of forced draft and staged incubation, and it was the lack of this combination that crippled and confined the prior art. It

was the successful combination of these steps in the patent which opened the way for the substantial advance which had its origin and inception in Smith.

(5) Neither adding improvements nor decreasing efficiency avoids infringement:

At various times during this litigation the respondent has argued that, as he employed a somewhat modified type of apparatus from that shown in the Smith patent, he did not infringe. Such apparatus details are, of course, immaterial when the question of infringement of a process or method patent is involved, for as stated by this Court in *Cochrane* v. *Deener,* 94 U. S. 780-788:

> "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. *The machinery pointed out as suitable to perform the process may or may not be new or patentable;* whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but *the tools to be used in doing this may be of secondary consequence.*"

And in *Carnegie* v. *Cambria,* 185 U. S. 403, 441:

> "It" (a process patent) "professes to disclose a method of procedure, not the particular instrumentality that may be employed."

And *Leeds & Catlin* v. *Victor Talking Machine Co.,* 213 U. S. 301-318, is particularly apt:

> *"A process and an apparatus by which it is performed are distinct things. They may be found in one patent;* they may be made the subject of different patents."

Such apparatus details are the design and location of the fans, the omission of the "curtains" used by Smith to direct the flow of air from the fans from an "adjacent chamber" into the lowermost portion of his incubator cabinet. Such details are obviously immaterial to a consideration of claim 1. *Other* claims include these details; claim 4 includes the curtains, claim 2 includes the adjacent chamber. Claim 1 includes none of these details. Smith showed a particular type of incubator to perform the process in accordance with the terms of claim 1, but in so doing he was merely following the necessary requirements that an inventor illustrate some means by which his invention may be carried out, and there was no intent upon Smith's part that his process was to be confined to the use of that apparatus.

> "As the apparatus shown in a process patent is only to show that the process may be practically applied, it follows that such illustrative apparatus does not limit the process patentee to that type of machine alone." (*Moore Filter Company* v. *Tonopah-Belmont Development Co.*, 201 Fed. 532-541, C. C. A. 3.)

It may be stated that none of these *apparatus* considerations disturbed the Circuit Court below. No courts have so far strayed from the fundamental principles of patent law as to hold that the Smith *process* is limited to the use of the *apparatus* shown in his patent.

Nor does the fact that respondent uses a current moving in a horizontal plane avoid claim 1; the limitation as to the vertical current was reserved by Smith in narrower claim 3.

The changes which the respondent has made in adopting the Smith invention are colorable changes merely, which do not alter the basic combination of staged-incubation and forced-draft, which is characteristic of the Smith invention.

Respondent has no partitions, but this does not avoid claim 1 because he obtains the same results by increasing

the velocity and volume of his current so that no partitions are necessary.

The sole function performed by the curtains in the Smith machine is to insure that the air as it leaves the fans overhead will reach the lowermost hatching trays (Vol. I, p. 78). It is perfectly obvious that the same results could be obtained in the Smith machine without curtains by increasing the fan power slightly (Vol. I, p. 130). The curtains are, in truth, but a refinement of apparatus and their presence or absence in no way makes or destroys the basic principle of current circulation in the Smith machine. Even with the curtains removed from the Smith machine the current of air will persist throughout the machine (Vol. I, p. 335). This was shown by Prof. Rowley's tests with and without the curtains. With the curtains the average speed of air flowing underneath the lowermost hatching tray in the Smith machine was 198 feet per minute. Without the curtains the average speed was 162 feet per minute, a difference of only 36 feet per minute (Vol. I, p. 256). It is obvious that this slight difference in speed of air at the point farthest removed from the fans could be easily compensated for by increasing the volume or velocity of the air from the fans, and placing them nearer the eggs, just as Snow has done. This fact was brought out in the examination of the defendant, Snow, by the District Court (Vol. I, pp. 159, 160).

Judge Westenhaver in the *Blum* case said (17 F. (2) 456-460):

> "In my opinion, it is not possible to procure either a current or column of heated air, functioning in the way pointed out in Smith's patent, without means for creating a forced draft, and without means for restricting more or less the channels through which it is driven. Smith's method cannot be practiced without these means."

With all due respect to the recognized ability of the late Judge Westenhaver, it requires only the minimum of

ingenuity to dispense with the curtains. It is done by the simple expedient of increasing the power of the fans and thus the velocity of the current. Respondent adopted that scheme.

The increase in volume and velocity is the mechanical equivalent of the curtains for it secures the same current movement of air as is secured in Smith. As the claims in suit do not specify how the current shall be secured, this change does not avoid infringement.

The respondent claimed that his incubator is superior to the Smith incubator in certain details of operation. These alleged advantages were not present, for the Snow incubator has never exceeded a 65% hatch (Vol. I, p. 164), whereas in the Smith machine the *average* hatch is 65% (Vol. I, p. 112).

Even were respondent's incubator an improvement over Smith in details and degrees, he utilizes the invention of Smith. It is a well known and well understood principle of patent law that a defendant does not avoid infringement by pointing out that he has improved upon the patent which he infringes.*

Respondent's machine is, in reality, not as efficient a machine as the Smith machine, as respondent is required by reason of the omission of curtains or partitions to move three to four times more air in order to obtain the same results in the same manner as in Smith's (Vol. I, p. 110). It is well settled, however, that a defendant does not

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* *Temco Co.* v. *Apco Co.*, 275 U. S. 319, 328;
Cantrell v. *Wallick*, 117 U. S. 689;
Cochrane v. *Deener, supra*, 94 U. S. 780;
Hoyt v. *Horne*, 145 U. S. 302;
Union Tool Co. v. *Wilson*, 237 F. 837 (D. C. S. D. Cal., S. D.);
Otto Coking Co. v. *Koppers*, 258 F. 122 (C. C. A. 3);
Munising Paper Co. v. *American*, 228 F. 700 (C. C. A. 6);
Stockland v. *Russell*, 222 F. 906 (C. C. A. 8);
Reynolds Spring Co. v. *L. A. Young Ind.*, 36 F. (2) 150 (C. C. A. 6).

escape or avoid infringement by impairing the efficiency of the patented device.

> "It is not necessary that the defendant's cars should employ the plaintiff's invention to as good advantage as he employed it, or that the result should be precisely the same in degree. It must be the same in kind." (*Winans* v. *Denmead,* 15 How. 330, 344.)
>
> "When a party has invented some mode of carrying into effect a law of natural science or a rule of practice, it is the application of that law or rule which constitutes the peculiar feature of the invention. He is entitled to protect himself from all other modes of making the same application; and every question of infringement will present the question, whether the different mode, be it better or worse, is in substance an application of the same principle. *Curtis,* Sec. 320." (*Sewall* v. *Jones,* 91 U. S. 171, 184.)

The respondent in the courts below claimed a theory of operation based upon radiation, but radiation was necessarily present in the Smith process, as well, as was unwittingly admitted by Professor Rowley when he attempted to read that function in the Stulik patent (Vol. I, pp. 312-313). Were we to concede, which we do not, that there is any advantage gained by radiation in respondent's machine, this can be nothing more than an immaterial variation of Smith, for respondent cannot rely upon radiation to secure the results of even temperature. He uses and must use the forced draft of air. Were radiation the answer to the problem, he could omit his fans and avoid the Smith patent. The very fact that respondent insists upon the use of the forced draft of air belies the theory of radiation evolved by respondent's expert.

(6) Respondent copied from Smith:

It is interesting to note how respondent got into this business. It was through no originality on his part, but solely by copying others.

Respondent testified that he had been experimenting with and building incubators of his own design since the year 1909 (Vol. I, p. 163). According to his own admissions on cross-examination, he built an incubator like the Smith machine in the year 1924 (Vol. I, p. 167). That incubator was identical with the Smith machine, and respondent boasted that he had been able to "get by" without interference from Smith (Davis, Vol. I, p. 395).

Respondent and his wife testified that the machine was torn down at the end of the year, but this is doubtful in view of the fact that he continued to use this or similar machines during the succeeding years (Vol. I, pp. 377-379). In the fall of 1924 he wrote to the Smith Incubator Company negotiating for a Smith machine, saying, in a letter (Vol. II, p. 519) that:

> "We have been operating a double deck incubator for sometime; in a small way last spring, we converted this into a force draft machine, with very unsatisfactory results, so we dismantled it shortly after.
>
> As we have practically lost money on every turn of the baby chick business, it has been rather discouraging.
>
> In accordance with your literature which we have received from you regarding your incubator users, looks good.
>
> Up to date we have been undecided what to do, in regard to what machine to buy. Mr. Iseckson with the Buckeye Co., called on us yesterday and tried to sell us a Buckeye machine.
>
> We would like very much to own one of your machines but there is a considerable amount of money involved. Kindly quote us your very best terms.
>
> Also, what would your charges be if we built a machine like the Smith?
>
> Kindly let us hear from you at your earliest convenience."

This letter is a damaging bit of evidence for it is a confession by respondent that he could not build an incubator of his own design which would work.

During the succeeding years respondent purchased twelve Smith machines (Vol. I, p. 132) and grew and flourished, until he is now a large hatchery operator whose activities spread all over the State of Minesota (Vol. I, p. 165-6). Having operated twelve Smith machines, he became conversant with the operation thereof. But he was not content with the legitimate profits which he might make. He built and clandestinely operated three machines in the cellar of his plant which were identical copies of the Smith machine (Vol. I, pp. 375-396).

Later on and after a man named Robbins had gotten on the market with his machine, Snow substituted the Robbins fans for the Smith fans, and came out in the open with his machines.

There is not a new conception or idea in the entire respondent's machine. He copied the Smith machine even in detail. The size of the cabinet or housing is substantially the same. The egg trays are identical in size and spacing and are arranged with the same number in a stack and the same number of stacks on either side of the corridor. The corridor is the same as Smith in size and location and the heating coils are similarly arranged. The hatching trays are identical in size and proportion, and located in identically the same manner. The air inlet and exhaust holes are of substantially the same area. These things respondent took from Smith with a meticulous care to duplicate.

Respondent did not originate the fans or their location. These things he copied from the Robbins machine (Vol. I, pp. 95-97). He made his fans of the identical size, speed and design as the Robbins fans, mounting them in the same way and in the same relation to the air intakes.

As a matter of fact there is nothing original in the respondent's machine. In the main it is a copy of Smith. It differs from Smith in the specific fans which in turn were copied from another infringer.

Conclusion.

The prior art and the history of the Smith invention show that he made a very definite and radical improvement in an important industry.

The Smith patent is adequate to protect this invention. The essential features of staged incubation, forced draft, equalization of temperature, conservation of moisture, are all within claim 1 and nothing is in this claim which is not essential.

Reading claim 1 as it stands we find that it covers those essentials which the respondent in this case has seen fit to employ. Although Smith is entitled as a pioneer inventor to a broad interpretation of his patent, it is not necessary to use any liberality in treatment of the claim to find infringement here.

On the other hand, if claim 1 is to be construed to be no broader than the detailed description of the preferred form of the apparatus or the details of proceedure as found in certain portions of the specification, then we must subscribe to the principle that no patentee is allowed to cover variations of his disclosure, and a patent is no broader than its most detailed descriptive matter. This is not the intent of the patent law.

Respondent accomplishes the same results as accomplished by Smith, and he accomplishes them in the same way, namely, by the use of direct, defined, power driven currents through trays of eggs in varying stages of incubation and at different levels. The currents move through the egg trays in both Smith's and respondent's machines doing exactly the same work in exactly the same way. All that respondent has done is to make the current flow in a horizontal plane through his egg trays, instead of in a vertical plane as in Smith. Claim 1 is of sufficient breadth and scope to cover these modifications.

The respondent's machine is the direct result of the knowledge gained by the respondent in the years of successful operation of Smith machines. The intent of the respondent to copy and make use of Smith's development of mass hatching is shown by the meticulous copying of numerous details of the Smith machine and by his closely guarded operations for many years.

Respondent's variations over Smith are immaterial and colorable variations only of the Smith method. The method of the Smith patent cannot be avoided by changes in details of apparatus which do not affect the basic process disclosed by Smith, a process of which has revolutionized the art of incubation and elevated it from a subordinate auxiliary of the poultry business to a vast commercial industry, occupying a distinct field and giving profitable returns to many.

The case should be remanded to the Court of Appeals of the Eighth Circuit with instructions to hold Claim 1 valid and infringed.

Respectfully submitted,

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